AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A hair dye composition comprising a dissociative direct dye represented by the following formula (1) or a salt thereof:

wherein, R¹, R², R³ and R⁴ each independently represents a hydrogen atom or a substituent, X represents a hydroxyl group or -NHSO₂R⁵, in which R⁵ represents an alkyl, aryl or heterocyclic group, A represents a group represented by any one of the below-described formulae which group may have one or more substituents:

wherein * is a position bonding to the nitrogen atom in formula (1),

in formula (Cp-1), R^{11} represents a cyano, acyl, aryl or heterocyclic group, or - $C(R^{101})=C(R^{102})-R^{103}$, in which R^{101} , R^{102} and R^{103} each independently represents a hydrogen atom or a substituent with the proviso that at least one of R^{102} and R^{103} is an electron attractive group having a Hammett σp value of 0.1 or greater,

in formula (Cp-2), R¹² represents a cyano, alkoxycarbonyl, carbamoyl, aryl or heterocyclic group, and R¹³ and R¹⁴ each independently represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-3), R¹⁵ represents a hydrogen atom or an alkyl, aryl, heterocyclic, amino, alkylamino, arylamino, heterocyclic amino, alkoxy, acylamino, alkoxycarbonylamino, ureido, alkoxycarbonyl, carbamoyl or cyano group, and R¹⁶ represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-4), R¹⁷ and R¹⁸ each independently represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-5), R¹⁹ and R²⁰ each independently represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-6), R²¹ and R²² each independently represents a cyano, carbamoyl, alkoxycarbonyl, alkylsulfonyl or arylsulfonyl group, and R²³ represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-8), R²⁷ and R²⁸ each independently represents a cyano, carbamoyl, alkylsulfonyl or arylsulfonyl group, R²⁹ represents a substituent, and s stands for an integer of from 0 to 6,

in formula (Cp-9), R³⁰ and R³¹ each independently represents a hydrogen atom or a substituent, and Z¹ represents an atomic group necessary for the formation of a 6-membered ring together with N-C=N, resulting in a ring system selected from the group consisting of:

wherein R¹¹³ and R¹¹⁴ each independently represents a hydrogen atom or an alkyl group, R¹¹⁵ represents a hydrogen atom or an alkyl group, and R¹¹⁶ represents a hydrogen atom or an alkyl, aryl, alkoxy, aryloxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxycarbonylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio, or arylthio group,

in formula (Cp-10), R³² represents a hydrogen atom or a substituent, and Z² represents an atomic group necessary for the formation of a 6-membered ring together with N-C=N,

in formula (Cp-11), R^{33} , R^{34} and R^{35} each independently represents a hydrogen atom or a substituent, Z^3 represents a nitrogen atom or $-C(R^{36})$ =, in which R^{36} represents a hydrogen atom or a substituent, with the proviso that when Z^3 represents $-C(R^{36})$ =, R^{34} and R^{36} may be coupled to form a 5-membered or 6-membered ring, and

in formula (Cp-12), R³⁷ and R³⁸ each independently represents a cyano, carbamoyl, alkoxycarbonyl, alkylsulfonyl or arylsulfonyl group, R³⁹ represents a hydrogen atom or a substituent, u stands for an integer of from 0 to 4 and Z⁴ represents -SO₂- or -SO.

Claim 2 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein R¹ and R² of the dissociative direct dye (1) are each a hydrogen or halogen atom, or an alkyl, cyano, acylamino, ureido, alkoxycarbonylamino, aryloxycarbonylamino, sulfamoylamino, alkylsulfonylamino, arylsulfonylamino, alkoxycarbonyl, sulfamoyl or carbamoyl group which may be substituted.

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Claim 3 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein R³ and R⁴ of the dissociative direct dye (1) are each a hydrogen atom, a halogen atom, or an alkyl or acylamino group which may be substituted.

Claim 4 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein X of the dissociative direct dye (1) is a hydroxyl group or -NHSO₂R⁵, and R⁵ is an alkyl group which may be substituted.

Claim 5 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein A of the dissociative direct dye (1) is a group, which may have one or more substituents, selected from the group consisting of:

formula (Cp-1) in which R^{11} is a cyano group, acyl group, heterocyclic group or group -C(R^{101})=C(R^{102})- R^{103}

formula (Cp-2) in which R^{12} is a cyano group, aryl group or heterocyclic group and R^{13} and R^{14} are each a hydrogen atom, alkyl group or aryl group, with the proviso that at least one of R^{13} and R^{14} represents a hydrogen atom,

formula (Cp-3) in which R¹⁵ is an alkyl, amino, alkylamino, arylamino, heterocyclic amino, alkoxy, acylamino, alkoxycarbonylamino, ureido, alkoxycarbonyl, carbamoyl or cyano group, and R¹⁶ is an aryl or heterocyclic group,

formula (Cp-4) in which R¹⁷ and R¹⁸ are each an alkyl or aryl group,

formula (Cp-5) in which R¹⁹ and R²⁰ are each an aryl or heterocyclic group,

formula (Cp-6) in which R^{21} and R^{22} are each a cyano, carbamoyl or alkoxycarbonyl and R^{23} is a hydrogen atom or an alkyl group,

formula (Cp-8) in which R²⁷ and R²⁸ are each a cyano, carbamoyl or alkoxycarbonyl group, R²⁹ is a halogen atom or an acylamino, alkylsulfonylamino, arylsulfonylamino, alkoxycarbonyl, carbamoyl, alkylsulfonyl or arylsulfonyl group, and s is an integer of from 0 to 2,

formula (Cp-9) in which R³⁰ and R³¹ are each a hydrogen atom or an alkyl, aryl, heterocyclic, alkoxycarbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or cyano group and Z¹ represents an atomic group necessary for the formation of a 6-membered ring together with N-C=N, resulting in a ring system selected from the group consisting of:

in which, R¹¹³ and R¹¹⁴ each independently represents a hydrogen atom or an alkyl group, R¹¹⁵ represents a hydrogen atom or an alkyl group, and R¹¹⁶ represents a hydrogen atom or an alkyl, aryl, alkoxy, aryloxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxycarbonylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio, or arylthio group,

formula (Cp-10) in which R^{32} is a hydrogen atom or an alkyl, aryl, heterocyclic, alkoxycarbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or cyano group, and Z^2 is a group capable of forming the following ring systems:

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in which, R¹¹¹ represents a hydrogen atom or an alkoxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxycarbonylamino, aryloxycarbonylamino, sulfamoylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio, arylthio or heterocyclic thio group, R¹¹² represents a hydrogen or halogen atom, or an alkyl, acyl, carbamoyl or alkoxycarbonyl group, R¹¹³ and R¹¹⁴ each independently represents a hydrogen atom or an alkyl group, R¹¹⁵ represents a hydrogen atom or an alkyl group, and R¹¹⁶ represents a hydrogen atom or an alkyl, aryl, alkoxy, aryloxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxycarbonylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio, or arylthio group,

formula (Cp-11) in which Z^3 is $-C(R^{36})$ =, R^{36} representing a hydrogen atom or an acylamino group, R^{33} and R^{34} are each a hydrogen atom, a halogen atom, an alkyl group or acylamino group, and R^{35} is a hydrogen atom or an alkyl group; or in which Z^3 is $-C(R^{36})$ =, R^{34} and R^{36} are coupled together to form a benzene ring which may be substituted with a halogen atom or an amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxycarbonylamino, alkylsulfonylamino or arylsulfonylamino group, R^{33} represents an acylamino, alkylsulfonylamino, arylsulfonylamino, carbamoyl or sulfamoyl group, and R^{35} represents a hydrogen atom, and

formula (Cp-12) in which R^{37} and R^{38} are a cyano or alkoxycarbonyl group, R^{39} is a halogen atom or an acylamino, alkylsulfonylamino, arylsulfonylamino, alkoxycarbonyl, carbamoyl, alkylsulfonyl or arylsulfonyl group, u is an integer of from 0 to 2, and Z^4 is -SO₂-.

Claim 6 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein A of the dissociative direct dye (1) is a group represented by formula selected from the group consisting of (Cp-1), (Cp-2), (Cp-3), (Cp-4), (Cp-9), and (Cp-11).

Claim 7 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein A of the dissociative direct dye (1) is a group represented by formula (Cp-1), R^{11} represents a cyano, acyl, aryl or heterocyclic group, or $-C(R^{101})=C(R^{102})-R^{103}$, in which R^{101} , R^{102} and R^{103} each independently represents a hydrogen atom or a substituent with the proviso that at least one of R^{102} and R^{103} is an electron attractive group having a Hammett σp value of 0.1 or greater,

Claim 8 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein A of the dissociative direct dye (1) is a group represented by formula (Cp-2), R¹² represents a cyano, alkoxycarbonyl, carbamoyl, aryl or heterocyclic group, and R¹³ and R¹⁴ each independently represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

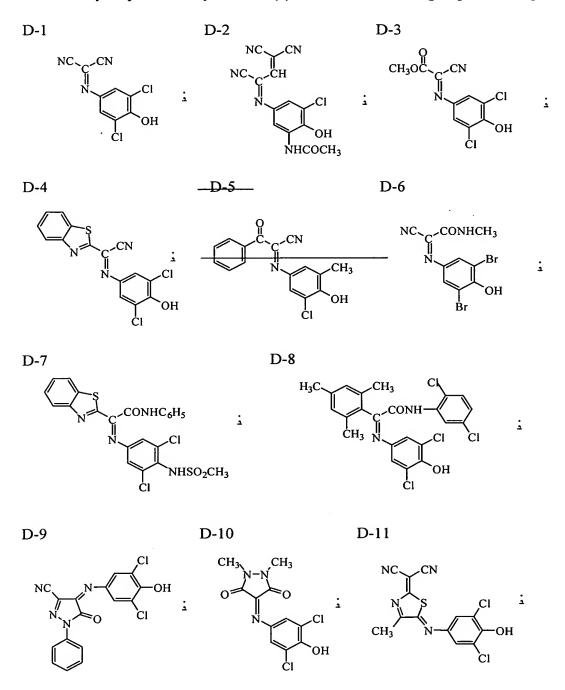
Claim 9 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein A of the dissociative direct dye (1) is a group represented by formula (Cp-3), R¹⁵ represents a hydrogen atom or an alkyl, aryl, heterocyclic, amino, alkylamino, arylamino, heterocyclic amino, alkoxy, acylamino, alkoxycarbonylamino, ureido, alkoxycarbonyl, carbamoyl or cyano group, and R¹⁶ represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

Claim 10 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein A of the dissociative direct dye (1) is a group represented by formula (Cp-11), R^{33} , R^{34} and R^{35} each independently represents a hydrogen atom or a substituent, Z^3 represents a nitrogen atom or $-C(R^{36})$ =, in which R^{36} represents a hydrogen atom or a substituent, with the proviso

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that when Z^3 represents -C(R^{36})=, R^{34} and R^{36} may be coupled to form a 5-membered or 6-membered ring.

Claim 11 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein said direct dye represented by formula (1) is selected from the group consisting of:



D-12 D-13 NC CN NC CH NC CH NC CH NC CH NC CH NHCOCH3

D-16

CI

N

SO₂CH₃

HO

N

SC₂H₅

D-18

H₃C

N

O

Cl

OH

D-19 D-20

H₃C N NHSO₂CH₃

Cl NNN N Cl NNN N

D-22 D-21

D-24 D-23

D-25 D-26

D-28 D-27

D-29

NC
N
CN
N
C2H5
CI
CI

D-30

N
N
OH
CI

D-32

D-34

D-36

D-31
(CH₃)₃C CN CI OH

NC SO_2 OH CI

NC SO CI CI OH

D-35

D-37

CH₃CONH

N

Cl

D-38

CONHC₃H₇

CI

OH

D-40

NC CN NC C C CI OH

D-41

(CH₃)₃C

NH

CI

HO

CI

CI

D-43

ONHCOCH₃

CH₃SO₂-NH

NHCOCH₃

Cl

OH

NC CN NC CI OH

D-45
$$CONH$$

$$C_{2}H_{5}$$

$$C_{2}H_{5}$$

$$C_{1}$$

$$C_{2}H_{5}$$

$$C_{2}H_{5}$$

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$$C_{2}H_{5}$$

$$C_{1}$$

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$$C_{5}$$

$$C_{7}$$

$$C_{$$

Claim 12 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, further comprising at least one direct dye or oxidation dye.

Claim 13 (Currently Amended): A <u>The</u> hair dye composition of Claim 12, wherein the total amount of said dissociative direct dye and said at least one direct dye ranges from 0.001 to 20 wt.% based on the whole composition.

Claim 14 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein the pKa of said dissociative direct dye ranges from 1.5 to 9.

Claim 15 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein the amount of said dissociative direct dye ranges from 0.001 to 20 wt.% based on the whole composition.

Claim 16 (Currently Amended): A The hair dye composition of Claim 1, further comprising at least one additional component selected from the group consisting of an alkali agent, an oxidizing agent, a developer, a coupler, an oxidation dye, an autooxidation dye, a direct dye, a polyol, a polyol alkyl ether, a cationic polymer, an amphoteric polymer, a silicone, a hydrocarbon, an animal fat or oil, a vegetable fat or oil, a higher fatty acid, an organic solvent, a penetration promoter, a cationic surfactant, a natural polymer, a synthetic polymer, a higher alcohol, an ether, an amphoteric surfactant, a nonionic surfactant, an anionic surfactant, a protein derivative, an amino acid, an antiseptic, a chelating agent, a stabilizer, an antioxidant, a plant extract, a crude drug extract, a vitamin, a colorant, a perfume, and an ultraviolet absorber.

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Claim 17 (Currently Amended): A <u>The</u> hair dye composition of Claim 1, wherein said hair dye composition is in a form selected from the group consisting of a powder, a transparent liquid, an emulsion, a cream, a gel, a paste, an aerosol, and an aerosol foam.

Claim 18 (Currently Amended): A method of dying hair, comprising applying to the hair of a subject in need thereof the hair dye composition of Claim 1 to the hair of a subject;

reacting said hair dye composition with said hair of said subject; and removing said hair dye composition from said hair of said subject.

Claim 19 (New): A hair dye composition comprising a dissociative direct dye selected from the group consisting of

D-5 D-47

or a salt

thereof.

Claim 20 (New): The hair dye composition of Claim 19, further comprising at least one direct dye or oxidation dye.

Claim 21 (New): The hair dye composition of Claim 20, wherein the total amount of said dissociative direct dye and said at least one direct dye ranges from 0.001 to 20 wt.% based on the whole composition.

Claim 22 (New): The hair dye composition of Claim 19, wherein the pKa of said dissociative direct dye ranges from 1.5 to 9.

Claim 23 (New): The hair dye composition of Claim 19, wherein the amount of said dissociative direct dye ranges from 0.001 to 20 wt.% based on the whole composition.

Claim 24 (New): The hair dye composition of Claim 19, further comprising at least one additional component selected from the group consisting of an alkali agent, an oxidizing agent, a developer, a coupler, an oxidation dye, an autooxidation dye, a direct dye, a polyol, a

polyol alkyl ether, a cationic polymer, an amphoteric polymer, a silicone, a hydrocarbon, an animal fat or oil, a vegetable fat or oil, a higher fatty acid, an organic solvent, a penetration promoter, a cationic surfactant, a natural polymer, a synthetic polymer, a higher alcohol, an ether, an amphoteric surfactant, a nonionic surfactant, an anionic surfactant, a protein derivative, an amino acid, an antiseptic, a chelating agent, a stabilizer, an antioxidant, a plant extract, a crude drug extract, a vitamin, a colorant, a perfume, and an ultraviolet absorber.

Claim 25 (New): The hair dye composition of Claim 19, wherein said hair dye composition is in a form selected from the group consisting of a powder, a transparent liquid, an emulsion, a cream, a gel, a paste, an aerosol, and an aerosol foam.

Claim 26 (New): A method of dying hair, comprising applying to the hair of a subject in need thereof the hair dye composition of Claim 19; reacting said hair dye composition with said hair; and removing said hair dye composition from said hair.

SUPPORT FOR THE AMENDMENTS

Claims 1-18 have been amended.

Claims 19-26 have been added.

The amendment of Claims 1-18 is supported by originally filed Claims 1-16 and the specification as originally filed. Further, support for new Claims 19-26 is provided by the originally filed claims and specification, for example page 26.

Applicants wish to make special note that the second occurrence of D-48 appearing in previously pending Claim 11 and on page 26 of the specification has been amended to avoid unnecessary and confusing duplicity in naming convention. Specifically, the second occurrence of D-48 has been replaced with D-52.

No new matter has been added by the present amendment.

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